



Effect of SAQ training and circuit training on speed among men kho - kho players

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Abstract

The present study explores the impact of 12 weeks SAQ training and Circuit training on speed among kho kho players. district, state, inter collegiate, inter university and national level and international participated male kho kho players chosen from kho kho academy at J Panguluru, Inkollu Mandal, Prakasam district, Andhra Pradesh, India. The chosen N=33 kho kho player's age ranged from 17-24 years as per their academy record. The chosen male kho kho players randomly and equally distributed n=11 into 3-groups namely speed agility and quickness training group [SAQTG=11], circuit training group [CTG=11] and control group [CONG=11]. All the three groups' kho kho players' measurement on speed parameter score were collected in the beginning and after the 12-weeks of Speed agility and quickness [SAQ] training and circuit training. The collected measurement of speed parameter was analyzed by analysis of covariance to find the significant in pre test and post test mean and adjusted post test means found significant post hoc pair wise comparison was applied by scheffe's post hoc test at 0.05 fixed level of confidence by used statistical package of the social science. The present study found that 50 meters dash performance test timing significantly reduce in treatment groups namely SAQTG and CTG kho kho players when comparison between pre score and post score on speed. Further it was concluded that SAQTG kho kho players shown best performance in 50 meter dash when comparison with CTG kho kho players and CONG [Control group] kho kho players.

Keywords: speed, agility, quickness, circuit training and kho kho players

Introduction

The main foundation of physical education was discovered in ancient Greece. The philosophers like Socrates, Aristotle and Plato were in stated that physical training is a must for youth. Even in India, Physical activities were essential part of life in ancient times. The term physical education consists of two very significant words that physical means relating to the physical abilities like speed, strength, endurance, flexibility, agility and functioning of various organs of a human body and Education means getting knowledge of various things, which helps us to achieve our target or change the way we look this world.

SAQ training train athletes to improve speed, agility and quickness. The main stress of SAQ training to increase speed, strength, maximal forces, high speed movements, muscular power, motor skill, reaction time, brain signal efficiency, acceleration, kinaesthetic awareness. In kho kho game kho kho players involve in straight run, turning and zig zag run [Gurvir and Baljeet 2017]. Santosh and Basant (2014) described that SAQ training cover the complete area from low intensity to high intensity level during training and removes the mental bocks to improve control, balance and exert maximal force during movement pattern. Agility exercises program develop balance by shifting body centre of gravity during postural deviation and also coordination.

The sports scientist R.E. Morgan and G.T. Adamson invented circuit training in the year 1953. Circuit training exercises designed to develop muscular strength, muscular endurance, muscular power, coordination, speed and agility, cardiovascular

endurance and flexibility of the players. In circuit training usually six to twelve exercises station were planned. The athlete's perform each exercise as per the fix repetition and time before moving to the next station of exercises and idea of the athletes to move next station as fast as possible. The advantages of circuit training method develop total physical fitness of the players, exercises in the circuit can be modify as per the needs of the athletes, large number of students can be involve circuit training in groups with low expenses.

Speed

Speed mean ability to run fast short distance for minimum time [https://dictionary.cambridge.org/dictionary/english/sprint].

Method and Procedure

To achieve the purpose of this research the investigator chosen total N=33 district, state, inter collegiate, inter university and national level and international participated male kho kho players chosen from kho kho academy at J Panguluru, Inkollu Mandal, Prakasam district, Andhra Pradesh, India. The chosen kho kho player's age ranged from 17-24 years as per their academy record. Total N=33 kho kho players selected randomly and distributed into 3-groups equally n=11. Treatment group 'A' treated with speed agility and quickness training [SAGTG=11 kho kho players], treatment group 'B' treated with circuit training [CTG=11 kho kho players] and control group [CONG=11 kho kho players] participated only their regular activities.

The twelve weeks training schedule planned on the base of progressive load method. Every fourth week load has increased in total time duration, number of exercises, repetitions and sets. Total time duration of each day training session minimum 90 minutes to maximum 120 minutes. SAQ training and circuit training applied on alternative days in a week. If any kho kho players feel uncomfortable and injuries during any training sessions are free to quit from that training session. The twelve week training schedule of SAQ training and circuit training schedule plan for chosen kho kho players. 50 meters dash test: This event measures the speed of the kho kho players. On command clap the kho kho players advised to run as fast as possible from starting line to the finish line. The time measured to complete 50 meter dash nearest of second for each kho kho players. The score were collected from three groups kho kho players namely SAQ training group, circuit training group [CTG] and no training group [CONG] on speed parameter of men kho kho players beginning and after the end of 12-weeks SAQ training and circuit training. During the treatment period the three group's kho kho players not allowed to participate in any specific training apart from their regular exercises program. The collected score from SAQ [speed agility and quickness] training group, circuit training group and control group kho kho

players beginning and after the treatment period were statistically analyzed by analysis of covariance [ANCOVA] with the software SPSS to find the significant. Where ever the adjusted post test mean 'F' value found significant, Scheffe's post hoc test formula applied to find the significant changes between three groups speed agility and quickness training group, circuit training group and control group.

Data Analysis and Results

The result of the scores obtain from analysis of covariance, scheffe's test, discussion on hypothesis regarding acceptance and rejection of hypothesis and discussion on result attached with studies related to the independent and dependent variables. To achieve the purpose of this study researcher investigated the influence of 12-weeks speed agility and quickness [SAQ] training and circuit training on speed parameter of kho kho players. The collected measurement of speed parameter was analyzed by analysis of covariance to find the significant in pretest and post test mean. If the adjusted post test means found significant post hoc pair wise comparison was applied by scheffe's post hoc test at 0.05 fixed level of confidence. The calculations of speed parameters analysis by statistical package of the social science.

Table 1: Analysis of covariance for pre-test post-test and adjusted post-test score of SAQTG CTG AND CONG On Speed [In seconds]

| Tests | SAQTG | CTG | CONG | Source of variance | Sum of Squares | df | Mean Squares | 'F' Ratio |
|--------------------|-------|------|------|--------------------|----------------|----|--------------|-----------|
| Pre Test | | | | | | | | |
| Mean | 7.59 | 7.61 | 7.35 | B | 0.46 | 2 | 0.23 | 0.80 |
| SD | 0.32 | 0.27 | 0.33 | W | 2.93 | 30 | 0.09 | |
| Post Test | | | | | | | | |
| Mean | 6.94 | 7.22 | 7.70 | B | 3.29 | 2 | 1.64 | 12.52* |
| SD | 0.24 | 0.31 | 0.22 | W | 2.09 | 30 | 0.06 | |
| Adjusted Post Test | | | | | | | | |
| Mean | 6.87 | 7.19 | 7.73 | B | 4.34 | 2 | 2.19 | 47.30* |
| | | | | W | 1.36 | 29 | 0.46 | |

*Significant at 0.05 level of confidence (Required table value at 0.05 level of significant with df 2 and 30 is 3.31 and df 2 and 29 is 3.32).

The above table display the pre-test, post-test and adjusted post-test mean values and 'F' values of SAQTG[Speed, Agility and Quickness training group], CTG [Circuit training group] and CONG[Control group kho kho players on speed [In seconds].

The pre-test mean values of SAQTG, CTG and CONG kho kho players on speed were 7.59, 7.61 and 7.35 respectively. The calculated F-value for pre-test score was 0.80 which is lesser than the table value 3.31 with df 2 and 29 at 0.05 level of confidence This indicate that there is no significant differences between the SAQTG, CTG and CONG kho kho players in mean values on speed.

The post-test mean values of SAQTG, CTG and CONG kho kho players on speed were 6.94, 7.22 and 7.70. The calculated F-value for post-test score was 12.52 which is greater than the table value 3.31 with df 2 and 29 at 0.05 level of confidence. This indicate that there is significant differences between the SAQTG, CTG and CONG kho kho players in mean values on speed.

The adjusted post-test mean values of SAQTG, CTG and CONG kho kho players on speed were 6.87, 7.19 and 7.73. The calculated F-value for adjusted post-test score was 47.30 which is greater than the table value 3.32 with df 2 and 29 at 0.05 level of confidence. This indicate that there is significant differences between the SAQTG, CTG and CONG kho kho players in mean values on speed. The result proved that two treatment groups

namely SAQTG and CTG kho kho players 50 meters dash timing reduce significantly and their speed performance improved with the specific experimental treatment [SAQ training and Circuit training].

This indicates that significant differences exist in mean values of adjusted post-test among three groups kho kho players. Therefore scheffe's post hoc test was applied to pertain the result of significant differences among three groups on speed presented in the table

Table 2: Scheffe's test for paired adjusted final mean differences between SAQTG, CTG and CONG on speed [In seconds]

| Mean Values | | | Mean difference | CI |
|-------------|------|------|-----------------|------|
| SAQTG | CTG | CONG | | |
| 6.87 | 7.19 | - | 0.32* | 0.12 |
| 6.87 | - | 7.73 | 0.86* | |
| - | 7.19 | 7.73 | 0.54* | |

*Significant at 0.05 level of confidence

The above table indicated the paired adjusted final mean differences between SAQTG[Speed, Agility and Quickness training group], CTG [Circuit training group] and CONG[Control group] kho kho players on speed [In seconds] are 0.32,

0.86 and 0.54 which were higher than the critical difference value 0.12 required for significant at 0.05 level of confidence. The result of this study on speed found that SAQTG kho kho players training program is more effective to enhance their speed

performance when comparison with CTG kho kho players training program and CONG kho kho players. The pre-test, post-test and adjusted post-test mean values of speed are graphically presented line graph figure

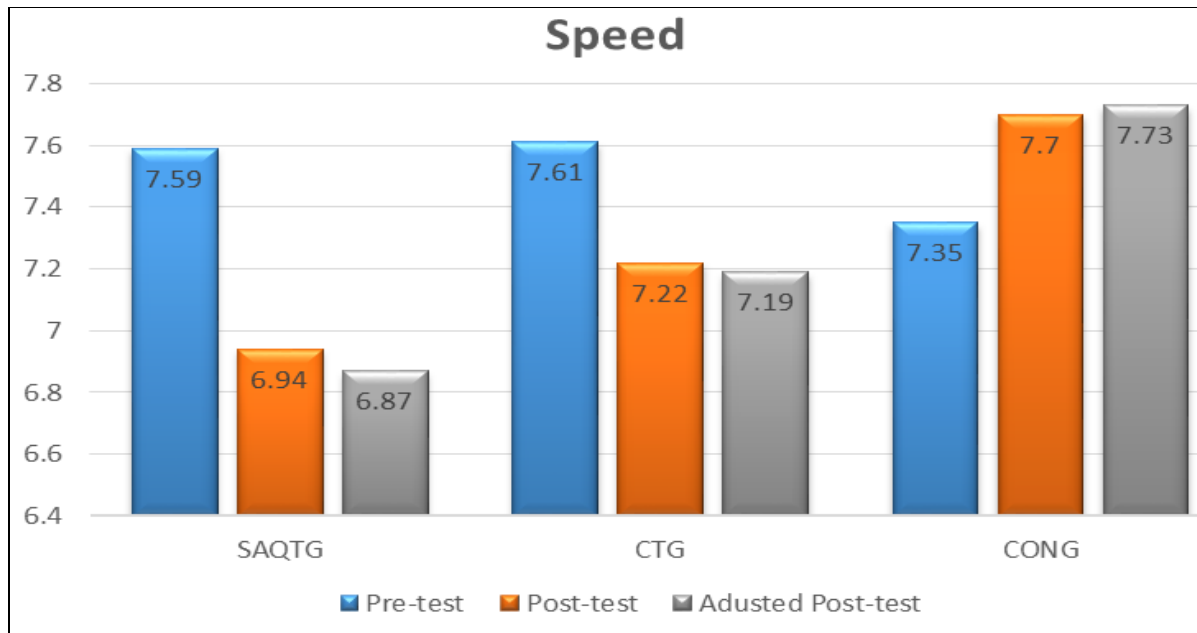


Fig 1: The graphical illustration of Pre-test, Post-test and Adjusted Post-test mean values on Speed [In seconds] for SAQTG, CTG and CONG kho kho players.

Discussion

The result on speed discovered that SAQ drills and circuit training had beneficial impact to improve 50 meter dash of kho kho players. The list of studies referred by investigator related to speed were attached Juliance (2016) [6] found that SAQ drill program is a beneficial training program to reducing the timing of speed of sprinters. Gursharan (2019) [7] observed that SAQ treatment and Plyometric treatment program had higher rate of improving speed performance of handball player's. Karthick et al., (2016) study shown that SAQ training had beneficial influence to improve the timing of speed of football players. Vikesh (2016) study stated that speed of the university students improved due to the circuit training. Vallimurugan and Muniyappan (2019) concluded that Speed Agility and Running [SAR] training had produced beneficial impact to improve speed of kho kho players. Kumar (2016) study proved that circuit training for 4-weeks beneficial to improve speed performance level of cricket fast bowlers.

Conclusion

The present study found that 50 meters dash performance test timing significantly reduce in treatment groups namely SAQTG and CTG kho kho players when comparison between pre score and post score on speed. Further it was concluded that SAQTG kho kho players shown best performance in 50 meter dash when comparison with CTG kho kho players and CONG [Control group] kho kho players.

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